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SECTION IX.

SPECIAL SCHOOLS FOR BLIND, DEAF AND DUMB CHILDREN.

ÉCOLES SPÉCIALES POUR ENFANTS AVEUGLES, SOURDS ET MUETS.

SONDERSCHULEN FÜR BLINDE UND TAUBSTUMME KINDER.

President.

The Right Hon. the Earl of Crewe, P.C., Lord President of the Council.

Secretaries.

B. P. Jones, London.
The late William van Praagh, London.

THE MENTAL CHARACTERISTICS ASSOCIATED WITH BLINDNESS OF VARYING CAUSATION, AND THEIR RELATION TO TRAINING.

By N. Bishop Harman, M.A., M.B. (Cantab.), F.R.C.S. (Eng.),
Oculist, London County Council Blind Schools; Ophthalmic Surgeon, the Belgrave Hospital for Children.

The sense organ on which a normally constituted man most relies to judge of his relation to things material is the eye. The whole tendency of the evolution of the physical characters of man has been to improve his capacity for an exact judgment of the character and position of objects by the use of his eyes. His erect position increases the range of his vision, the development of the yellow spot in the retina is correlated with a special power for exact vision, and the flattening of the face and the bringing of the eyes from the sides of the head to the front enables the two eyes to act as one, with the result that binocular or stereoscopic vision, that master-key of visual powers, is possible. Without such a development of visual powers as these the position of man in the scale of animal life would have been impossible; for the development of the highest cerebral faculties are so intimately connected with the interworking of hand and eye that without this master-key—stereoscopic vision—we can hardly conceive of the development of that cunning or craftsmanship which makes man what he is.

If then, in a very real sense, eyes have made man, what must be the loss to a man of the power of vision!

In the preparation of this paper I have confined my attention to observations derived from the examination of the children of the blind schools of the London County Council. During the past five years nearly four hundred of these children have passed through my hands. Many of them I have seen repeatedly, and it has been a matter of interest to note their varying mental capacity, and to attempt to discover how far their capacity and intelligence was affected by their blindness and the special nature of their blindness.

In looking over the diagnoses of the conditions from which the blindness of these children arose, I find them ranged over as many as twenty different heads. To attempt to label each one of these twenty varieties of blindness with a peculiar psychological characteristic would be a sorry task both for you and me. The conditions, however, can be easily and satisfactorily arranged under certain broad groups.

1. Blindness due to causes which are in their nature accidental.
2. Blindness due to general disease in which the child is born and shapen.
3. Blindness due to congenital deformities.
4. Blindness or partial blindness due to disease of the eye alone.

Nearly 90 per cent. of all forms of blindness fall easily into the first three of these groups. The fourth is a small group comprising a comparatively small number of children. Yet from the peculiarity of the condition they are of considerable importance, and they are increasing in number.

Then there are a few cases of partial blindness due to constitutional causes, not necessarily due to inheritance, but these will call for but small note.

Group I. Blindness due to Causes which are in their Nature Accidental.

This group covers a very large proportion of the cases of blindness amongst children. 44 per cent. of those in the L.C.C. schools are therein included. In most of these, blindness has followed destruction of the eyes by reason of the accidental inoculation of the surface membranes of the eye with some virulent micro-organism. In a few the eyes were injured by blows, foreign bodies entering the eyes, and so forth, which set up inflammation of such a serious kind that the eyes were destroyed.

Of this group of cases 84 per cent. (or 37 per cent of the total blind) were blinded by the purulent ophthalmia of the new born; of the remainder, purulent ophthalmia in later years accounted for 7 per cent.; accidental injuries and sympathetic inflammation therefrom 7 per cent.; and small-pox 2 per cent. Although the great majority of these causes producing blindness are what we regard as diseased conditions, yet they are really in the nature of accidents. No child need suffer from purulent ophthalmia at birth; the disease is preventible. The eyes only exhibit the inflammation when foreign matter—in this case the micrococcus of Neisser—has been inoculated into the eyes.

In days not far remote, in our own land—and even now in the East—purulent inflammations in the later years of life blinded innumerable eyes; and the present smallness of the total of blindness resulting from

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this cause is striking testimony to the efficacy of modern medicine. Small-pox was formerly even more notorious as a blinder of the eyes of the young, but now the tale of the blinded has shrunk to insignificant proportions—and, let it be noted, those on my list so affected had not been vaccinated.

Accidental injuries to the eyes of children and the disastrous sympathetic inflammation which may follow therefrom are not so common amongst children as amongst adults. Adults run greater risks by reason of their occupations, and children would run fewer risks than they do were the atrocious game known as "tip-cat" less popular in its season.

Group 2. Blindness due to General Disease in which the Child is Born and Shapen.

This is a large group, perhaps a good deal larger than our present knowledge leads us to suspect. Certainly 20 per cent. of the total, probably 30 per cent., represents the tale of blindness due to this one cause—syphilis. Through disease in the parents the children are born and bred in disease. These unfortunate children cannot be more accurately described than by the words of that most ancient of laments "born in sin and shapen in iniquity."

The eyes do not suffer alone; ears, teeth, limbs, physiognomy, and brain suffer also in more or less degree. As when the bell-founder has poured his metal into a defective mould he gets a bell from which no true note can be got, so it is with these children.

Group 3. Blindness due to Congenital Deformities.

This group accounts for some 20 per cent. of the children. It forms a collection of physical oddities or misfits. For some reason the nourishment of the infant developing within the mother has been arrested at certain points, and one or more parts of the body remain unfinished at the time of birth. Such defects in initial development cannot be made up afterwards, they remain permanently. A few can be dealt with to a slight extent by the eye surgeon, but for the most part they are irremediable. The defect may be confined to the eye, or, besides the eye, other parts of the body may be similarly affected. The eye, as an organ of vision, may be so ill developed as to be practically useless; or its development may be arrested at such a point as to permit of some vision, but not of sufficient quantity to be of prime service as the organ of sensation.

Group 4. Blindness due to Disease of the Eye alone.

This group is a small but important one. It comprises those children who are highly myopic, *i.e.*, extremely short-sighted. Properly speaking, they are not blind. And this is a point which will be of the first importance in considering their training in school.

There remain a small number of cases which do not fall under any of these four groups, cases where the optic nerve has been affected by some constitutional disease affecting the child in the earlier years of life, acute infectious diseases affecting the membranes of the brain and causing atrophy of the optic nerves. These cases are happily not

numerous, they do not, so far as I could determine, account for more than 5 per cent. of all the cases of blindness.

A very few cases of partial blindness appear in these schools in which the cause is a general debility of body, or a strumous diathesis. In these the cornea suffers acute and relapsing inflammations of a destructive kind: such children are better in convalescent homes than in schools. Lastly, a very few are blinded in early life by malignant disease—"cancer" of the eyes—which necessitates the removal of the eyes for the preservation of life: these are so few that amongst all those seen in the Council schools there was only one child so blinded.

Mental Characteristics.

Let us now consider the mental characteristics of these blind children, and see how far the grouping, by reason of physical conditions, can help us to understand their mental condition and to shape our mode of training to that condition.

Let me say first, that of all defective children there are none more generally happy and cheerful than the blind. In contentment of disposition they far excel the deaf or crippled. And I think it is as much to this genial temper as to a recollection of their loss that we may credit the great interest exhibited in the blind. Good temper is much in education, and I think teachers in blind schools appreciate this.

This character is particularly noticeable in the large first group of cases—those blind by reason of accidental causes. These children are, from every point of view, the best material you teachers of the blind will get into your hands. You may hope for the best results from them. The group is also a hopeful group by reason of its being a diminishing quantity. The increase of carefulness at the time of birth and in later years, the promptness with which diseases of the eyes come under treatment, and the increasing facility for and improvement in the methods of eye treatment, all go to diminish this great group.

These children are normal, except in point of sight. Physique, hearing, and intelligence are not bound up in a general depression by reason of disease. The actual diseased condition producing the blindness has but a short duration, and once the shock of the disaster is recovered from there is no reason why all the physical and mental capacities of the child should not be as successfully developed as they can be in a normal child. In one sense a blind child of this group has a better chance of obtaining a successful cultivation of its remaining capacities, for that sympathy for the blind which has been so marked a feature of philanthropy during the past two hundred years has been turned into most practical directions, and it has been unhampered by any foolish aping of a shadowy scheme of a liberal education which still weakens our general educational system. In every way the senses of touch and of hearing have been brought under successful cultivation, so that a blind child of average intelligence can realise in a concrete fashion the current ideas of the community. By ear-gate and the road of the fingers the mind of the child can be brought into relation with his surroundings with a very complete success, even though the more facile eye-gate be closed.

Of course there will be variations in the intelligence of these children, in their response to stimuli, and their capacity for receiving communi-

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cations, just as there is in ordinarily sighted children. We shall find the great majority of them fall in a group of average capacity, rising gradually from those who are just of fair capacity to a higher level of considerable ability. At either ends of the slope there will be a small selected group, the one the dunces, the other the clever ones. This curve of capacity has been demonstrated in examination results time and again, and it is as easily demonstrable amongst these children as in the sighted.

The present mode of educating the blind in reading, writing and ciphering by the cleverly arranged embossed types, in numerous manual employments, in typewriting, in printing, in music, and so forth, seems to be admirably adapted to this large first group. It is right in its principles, and its details will vary with local circumstances and the possibilities of remunerative employment in after life. Whatever the pedagogue may say to the effect that a liberal education must not be of an order directly conducive to earning a decent living, there is no one who does not doubt that the first and the last desiderata in teaching the blind are to turn everything to the end of their independence in later years.

When we come to consider our second group of cases—those blind by reason of disease in which they have been born and shapen—we find quite a different state of affairs to that we have just considered. The disease which causes most of these cases is one which affects one or both of the parents of the child; the disease of syphilis is due to infection with a micro-organism, the *spirochæta pallida*. This organism is perhaps the one which, of all those known to man, is most penetrating and most saturating in its effects. The man or woman infected by this organism will show the effects of its action in any or every part of the body, and at any of the remaining periods of life, unless there be satisfactory treatment; and a child born to affected parents is saturated with the poison from its conception in the same degree in which the disease affects the parents.

A child born under such conditions is liable at any period of life to show signs of degeneracy of its tissues, and the more special and highly developed the tissues, the more liable are they to be affected.

Bones, skin, teeth, ears, eyes, brain are all liable to degeneration, and it is because of this we find so large a percentage (20 to 30 per cent.) of blind children in our second group.

How the disease acts on the eye, whether by producing an interstitial keratitis, or a choroiditis, matters not here. The point of importance is the remembrance that the disease is not a disease of the eye only, not an accidental blindness such as we examined in our first group, but it is a disease of the whole body, and the damage to the eye is only one of the outward and visible signs of an inward and constitutional perversion.

It will be clear then that we have to deal with an altogether different mental status in the subjects of this inherited disease to that found amongst the accidentally blind. In the worst cases these children are imbecile; more often they are mentally defective, hideous of physical feature, and destitute of sensibility other than the primitive senses of heat and cold, hunger and thirst; the power of imitation, that *principia* of education, may not exist for them.

Happily all are not like these; the degree of affection shades off until the taint is not recognisable save by those who are experts in such observation, and not perhaps even by these until some untoward circumstances of general health brings out the disease. But there is never a certainty that the least affected will not at some time show changes of a gross form.

These are the physical conditions, blindness is but one of them, and not the worst. Moreover, the best of these children may at any time fail in health and degenerate.

With such a gradation in condition, and such a risk of degeneration, how can we graduate our scheme of training so as to fit these unequal conditions? Frankly, we cannot do it. It seems to me that in the training of these children we should keep to the simplest and most elementary work; enough to keep them out of mischief and to give them the possibility of earning a livelihood for themselves. To push on a child marked by this fell disease because he shows a little ordinary sharpness is no kindness; to teach him fine and skilled work is no profit. The greater the push the greater the stress, the more skilled the task the more the strain of nerve, and the more nearly you bring the child to that state in which the worst features of the disease appear.

To attempt too much will be to undo all; and to train such a child for tasks of skill will, in the event of such a breakdown, leave him unskilled even in the simplest tasks.

These children should be taught the simplest and most automatic of manual work, so that at the worst they may retain some capability for its execution.

In our third group of cases—those blind by reason of congenital deformity—will be found a rough cleavage into two sections.

The first, a section of children of nearly ordinary intelligence. They are blind, or nearly so, because the eye has not been completely formed, or has been badly finished; but they are well finished elsewhere, and may be mentally well equipped. Some of these children have seemed to me quite quick-witted and of average capacity, but generally they are better described as of nearly ordinary intelligence.

The other group are those in which the growth of the eyes has ceased at an early stage, so that they are very defective; in many cases there is a bad family history of blindness, and I have seen several members of one childship similarly defective. In these children dull wits and incapable brains are the rule.

The association of ill-grown eyes and poor brains is no distant one; the retina of the eye is really a part of the brain, and a condition of development which will result in a grave defect in the growth of the eye is more likely than not to be one affecting the brain also.

These children differ greatly from those in the preceding group. Those might fail at any time; our endeavour to train them might only strain them. But with these unfinished children there is no such ever-present danger as this; we may teach them what we can. In the worst cases there will be no danger of overloading them simply because they will be incapable of receiving a load; with the better and brighter we shall be limited by the physical deformity.

The fourth group of cases is one of peculiar interest—children who are in blind schools by reason of disease of the eye—not accidental and

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not strictly of inheritance or deformity. These are the extremely short-sighted—high myopes. This is no place to discuss the causes of the condition, enough that it is a disease of the eye and that the rest of the body may be healthy and the parents healthy.

Strictly speaking, most of these children are not blind at all. At their own distance they are nearly all capable of distinguishing the most minute objects. But for the purposes of ordinary school-work they are blind; and examination of the eyes by surgeons has led to their being placed in these schools lest their condition become worse by ill-judged usage of their eyes. Mentally most of them are as sharp as any school-child; some are of a peculiarly thoughtful turn of mind. Their short sight has, in a sense, isolated them from their surroundings and driven them into their own selves and into a world of their imagining. Many are exceedingly shy and sensitive, probably because to their blurred vision men and things take on so gross and monstrous a shape as to affright them.

These children are of peculiar difficulty to the teachers just because they are not blind, yet they are in blind schools, and must be taught the scheduled curriculum and learn to read and write Braille. The children learn it with ease, for they are of intelligence; but no sooner is the teacher's back turned than they bow down their heads to *see* what they must perforce read by *feel!*

This leads me to open up the point of the treatment of the *partially* blind in these schools. In examining the children I found 30 per cent. blind, 40 per cent. with some degree of perception of light, and 30 per cent. who could distinguish printed letters (of any size and at any distance). Of these last, a fair number could read and write a little, and could get about easily without any assistance. They could not be taught however in any other place than some school specially provided for them, such as these blind schools. But the point I wish to bring out is, what will these children consider themselves when they are away from school? Blind? Certainly not; only "weak-sighted." When they can see print will they restrict themselves to the limited library of Braille works, or will they ever write Braille type? I am sure they will not. My experience of the way in which myopes of extreme degree succeed in their sphere of life, even without the aid of glasses, makes me convinced that those in our schools who learn, with much care and diligence, the practice of Braille rarely continue the usage, but read and write as do other folk to the best of their powers of vision. If my observations in this matter be correct, then the schedule that compels a useless labour to these children is wanting in wisdom.

In teaching these children we ought always to keep their future in view, and train them accordingly. Their sight is defective, so they must be taught to work with their hands; and use should be second nature, so that they can work as a woman knits, with fingers only. But, if they have some useful vision, and their condition is such that the surgeon in charge not only does not inhibit the use of the eyes, but permits it, then these children should be taught to read and write by sight, and in the script that is the ordinary means of communication. Books, pens, ink and paper should not be allowed; but scrolls of large type, with letters four inches square which could be read at the distance of a yard, should be used instead of lesson-books; and writing should be

learnt with blackboard and chalk, free-arm fashion, at full stretch, in large and plain characters. By this means the partially blind would gain all the acquaintance with "letters" that would be well for them, for the most of their work should be manual labour and not literary.

The blind are likely to make much of any literary ability they possess, but the partly sighted are so diverted by their struggle to see that their field of usefulness is likely to be more in affairs than in thought. We must except the case of the myopes; but these, for the sake of their frail eyes, must be kept from reading so far as may be. Read and write they will, and with their eyes. Recognising this, I believe we shall do best for them by teaching them ordinary sighted script as the common mode of communication, and at the same time train them in such habits of self-control as will ensure the use and not the abuse of their powers. It is not the use of their eyes so much as their abuse under bad conditions which is to be feared.

There are other varieties of blindness of most interesting forms, both from physical and mental aspects, but their comparative scarcity in our schools makes it well to leave them for the broader grouping I have given.

In conclusion, I would suggest the use of a plan I have found of some value in school-work and of much help to teachers, the classification of the children in such a manner as the following :—

(1) Those children from whom we may hope for the best results of training.

(2) Those children whose training should be elementary only, and who, whether they show capacity or not, should not be permitted difficult work.

(3) Those who are likely to benefit but little by mental labour.

(4) Those who should be taught sighted script under given conditions.

This classification runs fairly with the grouping of conditions of blindness I have given. Classification is a baneful thing when it is its own end, but in practice such a sorting is a form of help which a medical officer of a blind school can give to the teacher, irrespective of his duties in the care of the physique of the children.

Dr. FRIEDEBERGER (London) said that, as the necessarily limited paper of Dr. Harman did not mention the cases of *Retinitis pigmentosa*, which, by a slow process, gradually destroys the eyesight of a certain percentage of deaf-mutes, and does lead to total blindness in addition to the sad affliction of deaf-mutism, it is necessary to draw attention to the existence of this dreadful disease in order to prevent deaf-mutes suffering from it being taught orally speech and lip-reading. It was sad to reflect that the ignorance of the head of an institution should thus be responsible for the wrong method of instruction being applied in these cases, for of course the sign of Braille script system, as far as it can be made useful, should alone be used. It is interesting to note, from a scientific standpoint, that Prof. Liebreich, of Vienna, first discovered the *Retinitis pigmentosa* in deaf-mutes; he also established the fact that there was to be found a higher percentage of these cases amongst Jewish deaf-mutes.

The Rev. ST. CLARE HILL, M.A. (Leatherhead), expressed on behalf of himself and those privileged to be present, hearty thanks for the very instructive paper and for the lucid explanations which had been offered by the reader. He said that the information given was extremely valuable, and would, no doubt, help in meeting many problems.

He wished to ask Dr. Harman a question in reference to the partially

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blind and their instruction in reading Braille. He understood the reader to suggest that those suffering from myopia should *not* be taught blind system of reading and writing. But surely one point had been lost sight of, namely, that a fair proportion of these cases eventually become blind, and if Braille is not taught possibly they would for ever lose the only opportunity of learning a blind system of reading. Would the reader suggest a step which may possibly cause such persons to lose a golden opportunity of receiving instruction in blind systems of reading and writing?

In reply, Mr. BISHOP HARMAN (London) said that the partially blind were a residuum for whom neither glasses to correct short sight nor operative treatment were advisable in their present state. Possible amelioration was always kept in view and attempted when justified.

There were some "partially blind" who might become "totally blind." The possibility was always kept in view; and when there was any reasonable likelihood of this following even at a remote period, the child should be taught the script of the blind. This was particularly the case with those afflicted with *retinitis pigmentosa*, about whom Dr. Friedeberger inquired. There were ten cases in L.C.C. schools, or about 2·5 per cent. The progress of the disease was often exceedingly slow, and the time when useful vision would be lost could not be foretold. In deaf-mutes with this disease the difficulty was enormous, for if they were taught lip-reading a time would come when they would not be able to see the movements of the lips; in these cases he always recommended the teaching of finger or sign language and Braille script.

With high myopes there was by no means a certainty of ultimate blindness. Detached retina did cause blindness in some cases, but it was not nearly so frequent as some would imagine.

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